OPERATING INSTRUCTIONS

Product Engineering
N. C. R. Cambridge

# TYPE 1203-B

# UNIT POWER SUPPLY

A GR UNIT INSTRUMENT

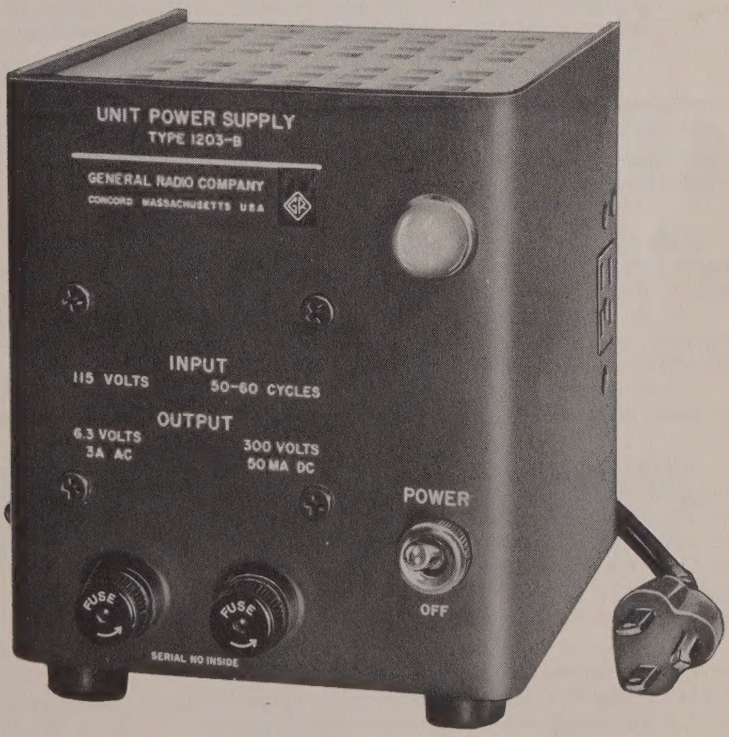


Figure 1. Type 1203-B Unit Power Supply.

# TYPE 1203-B UNIT POWER SUPPLY

## 1. INTRODUCTION.

1.1 PURPOSE. The Type 1203-B Unit Power Supply (Figure 1) is designed to provide a source of ac heater and dc plate power for other Unit Instruments. It can also supply equipment not of the Unit line, by means of a mating connector provided.

1.2 DESCRIPTION. The Type 1203-B is housed in a standard Unit-type case. On the front panel are the on-off switch, indicator light, and fuse holders. The output connector is on the right-hand side, the input cord and plug on the left-hand side.

## 2. AC-LINE CONNECTIONS.

The Type 1203-B Unit Power Supply operates from an ac line of 105 to 125 volts. The Type 1203-BQ18 is normally supplied to operate from an ac line of 195 to 235 volts. However, the power transformer of the Type 1203-BQ18 can be reconnected for 210-to-250-volt service as follows (see Figure 2):

a. Locate the three connections to the power transformer, T1. These connections are on the front of the transformer, toward the outside edge.
b. For 210-to-250-volt operation, move the brown lead from the lower primary tab to the upper one.

The Type 1203-B Unit Power Supply uses two 0.6-ampere Slo-Blo fuses, accessible at the front panel. The Type 1203-BQ18 uses two 0.25-ampere fuses.

3. OPERATING CHARACTERISTICS. The Type 1203-B Unit Power Supply uses a 6X4 full-wave rectifier to provide about 300 volts dc at a maximum load of 50 milliamperes. With no load the output is about 405 volts dc. A 6.3-volt ac heater supply is also provided. If the ac load is limited to 1.5 amperes, as much as 65 milliamperes may be drawn (about 285 volts). Ripple is less than 80 millivolts ac at 300 volts, 50 ma dc.

Both the 6.3-volt ac and 300-volt dc supplies are isolated from ground and from each other to permit greater latitude in external connections.

4. INSTALLATION. All Unit Instruments requiring external power are equipped with multipoint connectors that fit the Type 1203-B output connector. On some Unit Instruments this connector is on a cable; on many others, the connector is mounted on the side of the cabinet. In the latter instances, the Unit Power Supply can be permanently and firmly attached to the Unit Instrument by means of the locking strips supplied with the Unit Instrument for this purpose.

If power is to be furnished to an instrument not of the Unit type, use the mating connector supplied. Connect leads to the mating connector to match the appropriate terminals on the output socket, as indicated in Figure 2. (Terminal No. 15 of the mating connector connects to Terminal No. 15 of the output socket, etc.)

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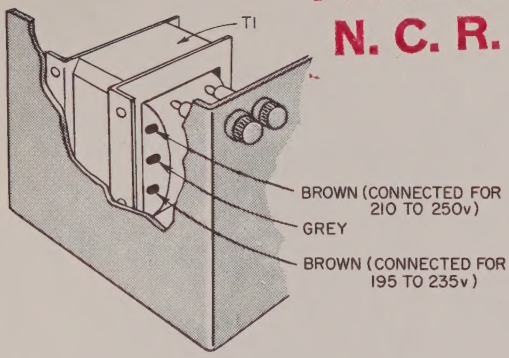


Figure 2. To change ac-line requirements of Type 1203-BQ18, change the connection of the brown wire on the power transformer.

5. OPERATION. The on-off panel switch is the only control. To turn power on, place this switch in the upper position. The indicator lamp should light when power is turned on.

6. SERVICE AND MAINTENANCE.

6.1 GENERAL. The two-year warranty given with every General Radio instrument attests the quality of materials and workmanship in our products. When difficulties do occur, our service engineers will assist in any way possible. Please write or telephone our Service Department, giving full information of the trouble and of steps taken to remedy it. Be sure to mention the serial and type numbers of the instrument.

Before returning an instrument to General Radio for service, please write to our Service Department or nearest district office (see back cover), requesting a Returned Material Tag. Use of this tag will ensure proper handling and identification. For instruments not covered by the warranty, a purchase order should be forwarded to avoid unnecessary delay.

## SPECIFICATIONS

| | |
|---|---|
| Output (at 115-v input): | 300 v dc (±5%) at 50 ma<br>6.3 v ac at 3 amp<br>(with ac load at 1.5 amp or less, max dc load is 65 ma, about 285 v dc.) |
| Regulation: | At no load, dc output is 405. |
| Ripple: | Less than 80 mv (120 cps) at full load. |
| Input: | 105-125 v for Type 1203-B (195-235 v for Type 1203-BQ18), 50-60 cps, 50 w full load at 115 v. |
| Connectors: | Line cord permanently attached to instrument. Standard 4-point connector mounted on cabinet side for other Unit Instruments. |
| Accessories Supplied: | Mating plug for equipment other than Unit Instruments. |
| Housing: | Charcoal-gray enamel-finish aluminum panel and sides. Aluminum cover finished in clear lacquer. |
| Dimensions: | Width 5, height 5-3/4, depth 6-1/4 inches (130 by 150 by 160 mm), over-all, not including power cord. |
| Net Weight: | 5 lb (2.3 kg). |

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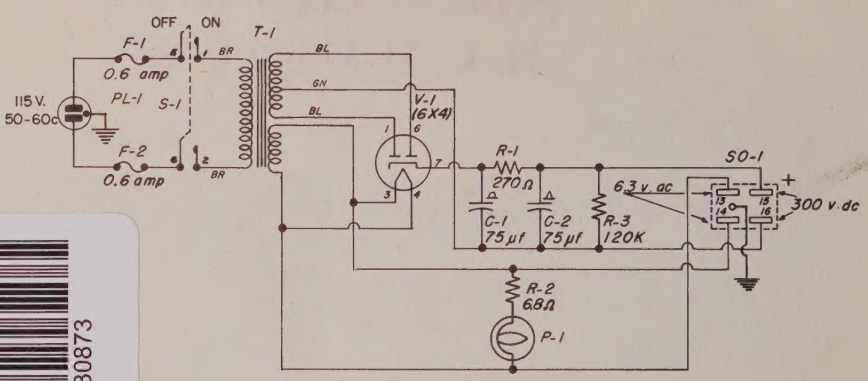


Figure 3. Schematic Diagram.

## PARTS LIST

| REF | DESCRIPTION | PART NUMBER |
|---|---|---|
| C1, C2 | CAPACITOR, Electrolytic Block {75 μf, 75 μf} 450 v | 4460-1900 |
| R1 | RESISTOR, Composition 270 Ω ±10% | 6120-1279 |
| R2 | RESISTOR, Wire-wound 6.8 Ω ±10% | Part of 7510-1930 |
| R3 | RESISTOR, Composition 120 kΩ ±10% | 6120-4129 |
| F1 | FUSE, 115 v, 0.6 a | 5330-1100 |
| | 230 v, 0.25 a | 5330-0700 |
| F2 | FUSE, 115 v, 0.6 a | 5330-1100 |
| | 230 v, 0.25 a | 5330-0700 |
| P1 | PILOT LIGHT, 6.3 v, Mazda Type 44 | 5600-0700 |
| PL1 | PLUG, Power | Part of 4200-1800 |
| S1 | SWITCH, Toggle | 7910-1300 |
| SO1 | SOCKET | 4230-0301 |
| T1 | TRANSFORMER, 115 v, Type 1203-B | 0485-4732 |
| | 230 v, Type 1203-BQ18 | 0485-4026 |
| V1 | TUBE, Type 6X4 | 8360-8100 |

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*GENERAL RADIO COMPANY (Overseas), 8008 Zurich, Switzerland*
*GENERAL RADIO COMPANY (U.K.) LIMITED, Bourne End, Buckinghamshire, England*
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